THE INSECT PEST SURVEY BULLETIN

A monthly review of entomological conditions throughout the United States

Volume 2 October 1, 1922 Number 7

BUREAU OF ENTOMOLOGY
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OUTSTANDING ENTOMOLOGICAL FEATURES FOR SEPTEMBER, 1922

There is practically no change in the Hessian fly situation since the last report. Observations in Iowa indicate that the heaviest emergence in that State is taking place in the south-central counties. The Bureau of Entomology Survey shows a decided decrease in the percentage infestation in Maryland, Delaware, and southwestern Pennsylvania, while in the Susquehanna Valley of the last State there is a marked increase.

Favorable weather in the east-central States has resulted in a decided increase in the number of chinch bugs of the second generation to reach maturity. In all probability an unusual number of adults will go into hibernation in this region.

The corn earworm was decidedly less serious throughout the northern part of its range than was the case last year.

The true armyworm was not serious over most of its rangg. In Illinois it was less numerous than has been the case for many years. A few isolated and unimportant outbreaks developed in the west-central States.

The apple and thorn skeletonizer continues to increase in intensity of infestation and in its range in New York and Connecticut.

The shot-hole borer is attracting considerable attention in the middle Atlantic and east-central States, where it is reported as attacking apparently otherwise healthy trees.

The potato leafhopper associated with hopperburn has been very serious in Wisconsin and western New York.

The Mexican bean beetle is consistently spreading northward; six new counties in Tennessee and one in Kentucky are reported infested during this month. Very little spread has been recorded southward from the original Alabama infestation.

The belted cucumber beetle is rapidly becoming a major crop pest in the lower Mississippi Valley.

The boll-weevil situation remains practically as in the last report. Boll damage is now reported as serious in many places throughout the cotton belt.

The bollworm is reported as serious in central Georgia, western Arkansas, and several places in Louisiana.

The cotton worm continued heavy feeding during the month over the Southern States. During the last week in September a serious outbreak developed in eastern Virginia requiring control measures. By September 12 the adults had reached Urbana, Ill. and by September 21, they had reached Bethlehem, N.H.

The fall webworm is unusually abundant over the Atlantic Coast States from Maine to Georgia and Alabama.

The birch leaf-skeletonizer is more seriously numerous than it has been in years in New England, New York, Michigan, and Wisconsin.

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CEREAL AND FORAGE-CROP INSECTS

WHEAT

HESSIAN FLY (Phytophaga destructor Say)

Pennsylvania — P. R. Myers (September 20). "In the Southeastern Pennsylvania area there has been a general decrease from 1.48 per cent at Nazareth to 12.15 per cent at Wernersville, except at Perkasie where there is recorded an increase of 4.82 per cent. In the Susquehanna Valley areaaall localities showed an increase which varies from 5.20 per cent at Montoursville to 14.91 per cent at Middleburg."

Delaware and Maryland — P. R. Myers (September 20). "In the Delaware and Eastern Shore of Maryland area there has been a decrease in all localities except at Cambridge, where there has been an increase of 1.09 per cent and at Princess Anne, where there has been an increase of 18.94 per cent."

Illinois — W. P. Flint (September 18). "There is no change in the Hessian fly situation since last month. A few flies are emerging but eggs are very scarce in the central part of the State."

Iowa — F. A. Fenton (September 19). "Three Hessian fly observation stations have been established: No. 1 at Spring Hills, in Warren County; No. 2 at Onawa, in Monona County; and No. 3 at Essex in Page County. Judging from reports sent in from these stations infestation seems to be most severe in the vicinity of Warren and Polk Counties. At the Warren County station the fly has been emerging more abundantly than at either of the other stations and there is a comparatively small percentage of parasitism at this station as compared with a high percentage at the Page and Monona County stations. At this time in 1921 the majority of the wheat was planted in Warren and Polk Counties. Owing to the campaign put on this year, at the present ime there are only four fields sown in Warren and one in Polk County."

JOINTWORM (Harmolita tritici Fitch)

Illinois — W. P. Flint (September 18). "Parasites of the jointworm are very abundant. Counts show approximately 50 per cent of the larvae killed in this way. A survey conducted during August showed a spotted infestation ranging from 2 per cent to 46 per cent in the southern part of the State."

CORN

CHINCH BUG (Blissus leucopterus Say)

Indiana — J. J. Davis (September 19). "Now that the wheat-sowing period is approaching, farmers are finding plenty of chinch bugs in cornfields and are inquiring as to the advisibility of sowing wheat in the infested fields."

Illinois — W. P. Flint (September 18). "Weather during August and the first of September was very favorable for the development of the second brood of the chinch bug. Fifty per cent or more of the bugs are now adults and it seems certain that much larger numbers are going into hibernation than was the case in the fall of 1921. Seventy-five per cent of the Counties in Illinois are now infested. Heaviest infestation occurs in the west-central part of the State."

Nebraska — M. H. Swenk (August, 1922). "The chinch bug has not proved as injurious in northeastern Nebraska as had been expected."

Kansas — J. W. McColloch (August 23). "The chinch bug occurred in damaging numbers throughout the eastern half of the State. Some bugs were found as far west as Thomas County."

CORN EARWORM (Heliothis obsoleta Fab.)

Connecticut — B. G. Southwick (September 19). "Rather numerous in Hartford County, though not as bad as last year. A few larvae were observed in Hamden and New Haven by Dr. Britton and Mr. Zappe."

New York — H. C. O'Dell. "The corn earworm has been commonly observed in the plantings of sweet corn in Nassau County since the middle of August."

E. P. Felt (September 23). "The corn earworm was reported from several localities in the lower Hudson Valley and on Long Island. The damage in 1921, however, was much more severe than this year."

Delaware — C. O. Houghton (September 11). "This species is much less abundant than last year in sweet corn about Newark, yet there is considerable infestation in some cases."

Illinois — W. P. Flint (September 18). "This insect has been much scarcer than at any time during the past ten years. The infestation in sweet corn in central Illinois was carefully followed throughout the season and never ran over 3 or 3½ per cent, averaging about 2 per cent. Moths are now appearing in greater numbers but too late to cause any damage to field corn."

Wisconsin — S. B. Fracker (September 15). "The outbreak of 1921 was not repeated this year. A single report of a few early-season individuals was received from Oshkosh."

Utah — I. M. Hawley (September 2). "This insect has become a serious pest wherever corn is grown. As high as 50 per cent of the ears are iinfested in some places."

ARMYWORM (Cirphis unipuncta Haw.)

Virginia — Correction: The note in Volume 2, No. 4, page 111, from this State refers to Chloridea obsoleta Fab."

Indiana — J. J. Davis (September 19). "On September 16 the county agent at Rockford in the southeastern corner of the State sent specimens of the common armyworm with the information that they were abundant and damaging corn in one locality."

Illinois — W. P. Flint (September 18). "Bait traps have been run for several seasons and this year have given the smallest catch of adults of this species."

Wisconsin — S. B. Fracker. "A single outbreak of this insect has come to our notice this year, this being in St. Croix County, but caused no serious injury."

Nebraska — M. H. Swenk (September 1). "The true armyworm appeared in the fields of millet and corn during the second week of August and did considerable injury in places. In Antelope County, in particular, there were several armies moving and destroying crops at that time."

WHEAT-HEAD ARMYWORM (Neleucania albilinea Huebn.)

Nebraska — M. H. Swenk (September 1). "In Kearney County, at the same time that the true armyworm was active in the second week in August, some of the oat fields were overrun with the wheat-head armyworm which ate the heads of the grain."

WHITE GRUBS (Phyllophaga spp.)

Illinois — W. P. Flint (September 18). "A number of fields of corn in east-central Illinois have been quite severely damaged by white grubs. In most of these fields areas of two or three acres will be injured but the rest of the field very lightly infested. Most of these fields were in corn in 1921, the grubs being now in their second year of development."

A FLOWER-BEETLE (Euphoria sepulchralis Fab.)

Indiana — J. J. Davis (September 19). "This flower-beetle was reported from Evansville on September 12 as doing considerable damage to corn by feeding on the maturing kernels."

ALFALFA

ALFALFA WEEVIL (Phytonomus posticus Gyll.)

California — (California Weekly News Letter, August 26.). "The alfalfa weevil has again been intercepted in automobile camping equipment, this time at Truckee. The weevil was taken on August 26 on a machine from Nevada."

COWPEA

COWPEA CURCULIO (Chalcodermus aeneus Boh.)

Georgia — O. I. Snapp (August 23). "Complaints are reaching the laboratory from various sections of central Georgia relative to damage to cowpeas by this insect, which does considerable damage each season."

F. H. Chittenden (September 8). "Mr. H. B. Lancaster reports that the cowpea-pod curculio was injurious to mung beans at Thomasville during August."

GENERAL FEEDERS

GRASSHOPPERS (Acridiidae)

Wisconsin — S. B. Fracker (August 15). "The infestation in the northeastern counties, extending from Door County to Iron County and westward to Price and Lincoln Counties, has been fairly well controlled by general distribution of poisoned-bran through town-board organizations. Egg laying was quite general after July 15."

Nebraska — M. H. Swenk (September 1). "Grasshoppers continued to be numerous and injurious in Scotts Bluff, Morrill, Sheridan, and Sioux Counties and the local outbreak in Washington County, which was investigated carefully during the third week in August, proved to involve a considerable reduction in the alfalfa yield. The species generally concerned in northwestern Nebraska is *Melanoplus bivittatus* Say, while Washington County infestation is almost entirely *M. differentialis* Thos., with but comparatively few *M. femur-rubrum* DeG. Grasshoppers were reported as injurious and numerous in Garfield County also during this month."

Kansas — J. W. McColloch (August 28). "*Melanoplus differentialis* Thos. and *M. bivittatus* Say are the predominating species in an outbreak in the northwestern part of the State covering Thomas, Sheridan, Graham, Logan, Gobe, and Trego Counties. *M. atlanis* Riley is beginning to appear."

F R U I T I N S E C T S

APPLE

APPLE APHID (Aphis pomi DeG.)

Massachusetts — R.A.Van Meter (September 13). "This insect is now abundant over the greater part of the State, particularly on young apple trees. It became numerous, however, too late to do a great deal of damage."

Wisconsin — S.B.Fracker (September 15). "The early-season outbreak disappeared over the greater part of the State, but aphids persisted to midsummer near Sturgeon Bay."

CODLING MOTH (Carpocapsa pomonella L.)

Massachusetts — R.A.Van Meter (September 13). "Complaints of side injury have been received from northern Middlesex County. There was a heavy emergence of adults for the second brood but many side holes appeared before this emergence."

New York — G.E.Smith (August 14). "The second brood of codling moth larvae were observed entering the fruit on August 14 at Waterport."

Indiana — J.J.Davis (September 19). "Evidently the warm weather during the last of August and the first of September was favorable to the third brood of codling moth. At the State fair (September 11-15) many young worms, apparently hatched after shipment to the fair, were found in the exhibit fruit."

Utah — I.M.Hawley (September 2). "In some small orchards in Summit, Wasatch, and Morgan Counties, five or more worms were found in every fruit. These orchards had not been sprayed, however."

APPLE AND THORN SKELETONIZER (Hemerophila pariana Clerck)

Connecticut — B.A.Porter (August 26). "This species is still on the increase in the vicinity of Wallingford. Third-brood larvae began spinning cocoons on August 23. Second-brood moths are still present in enormous numbers."

W.E.Britton and assistants (September 21). "Commercial sprayed orchards are not much injured. Unsprayed trees are now brown. This insect was less destructive than last year in Greenwich and Stamford, where the pest has occurred in the State. According to Mr. Manter, it is not serious around Storrs, nor has it been noted around Rockville by Mr. E.E.Tucker. It is doing considerable damage in Litchfield County, Fairfield County, and Windham and Hartford Counties."

New York — E.P.Felt (September 23). "There has been a very marked spread from the infested area near New York City northward of this insect during the summer and it has now become well established in southern Albany and Rensselaer Counties. The most serious injury has developed in unsprayed orchards, especially upon the younger trees. These showed a complete browning of the foliage. Moths were emerging in large numbers September 22."

YELLOW-NECKED CATERPILLAR (Datana ministra Drury)

New York — E.P.Felt (September 23). "The yellow-necked apple-tree worm has been moderately abundant in the eastern part of the State."

Nebraska — M.H.Swenk (August). "In Seward County during the third week in August the yellow-necked apple caterpillar was reported defoliating apple trees."

APPLE MAGGOT (Rhagoletis pomonella Walsh)

Connecticut — B.A.Porter (August 26). "In some orchards about Wallingford where this pest has been serious during the past few years it now seems to be rather scarce, but in other orchards serious damage is being done."

APPLE RED BUG (Heterocordylus malinus Reut.)

Massachusetts — R.A.Van Meter (September 19). "This insect has been very serious in Plymouth County this year. In some orchards fully half of the apples were ruined for market by feeding punctures. This is the first time I have found this insect in injurious numbers east of Worcester County."

FALSE APPLE RED BUG (Lygidea mendax Reut.)

Connecticut — F.A.Bartlett (September 19). "We never had so much trouble with red-bug injury as this year, possibly owing to the fact that there is a limited number of apples in this part of Fairfield County (Stamford) and practically all are knurled."

TARNISHED PLANT-BUG (Lygus pratensis L.)

Washington — E.J.Newcomer (September 8). "This insect is very abundant in alfalfa cover crops in Wenatchee Valley orchards. Wherever the loaded limbs of apple droop enough to allow the fruit to hang in the alfalfa the bugs attack the fruit. The fruit becomes covered with excreta, and the punctures cause green spots to develop which give the apple a water-cored appearance. The fruit also becomes somewhat deformed. Injury is confined to fruit hanging in the alfalfa."

BUFFALO TREEHOPPER (Ceresa bubalus Fab.)

Utah — I.M.Hawley (September 2). "Young orchards set out in alfala fields in Utah County in many cases have been entirely killed out. These were usually where weeds were allowed to grow about the trees."

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Wisconsin — S.B.Fracker. "New outbreaks have been discovered this year at Sheboygan and Rochester. This insect is unusually virulent where it is well established in Racine and Kenosha Counties."

EUROPEAN RED MITE (Paratetranychus pilosus Can. & Fanz.)

Massachusetts — R.A.Van Meter (September 13). "Red spiders of some kind are on the increase all over the State. They are very numerous on apple leaves and are also found on plum, elm, and oak."

Utah — I.M.Hawley (September 2). "On some places in Utah and Davis Counties the leaves are turning brown and dropping."

Washington — E.J.Newcomer (August 5). "Both this species and Tetranychus telarius L. are very severe on all kinds of deciduous fruits in the Yakima and Walla Walla Valleys. This is probably due to the very hot and dry summer which we have had. P. pilosus is the most numerous on apple and pears, while T. telarius is worse on other fruits and on berries as well as truck crops. Prunes in the Walla Walla district are reported as defoliated."

PEAR

QUINCE CURCULIO (Conotrachelus crataegi Walsh)

New York — E.B.Shear (August 19). "Some pear orchards in Ulster County show a very high percentage of injury due to this pest. In one case the injury ran to 42 per cent of the fruit. Seckels and Bartletts have suffered most."

FLAT-HEADED APPLE-TREE BORER (Chrysobothris femorata Oliv.)

Washington — E.J.Newcomer (August 12). "In an 80-acre orchards planted this year in Yakima Valley 5 per cent of the trees were killed by this insect."

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Washington — E.J.Newcomer (August 7). "A severe infestation of this scale was found on a small block of Winter Nelis pear trees, the leaves being covered with honeydew. An application of nicotine

sulphate 1-1,000 and soap appears to have killed a large percentage of the young. An interesting feature of this infestation is that Bartlett pear trees adjoining the Winter Nelis have no adults and only a light scattering of young on them, the scale evidently preferring the Winter Nelis variety."

PEACH

PEACH BORER (Aegeria exitiosa Say)

Georgia — O.I.Snapp (August 7). "At least 95 per cent of the peach growers in the peach belt of Georgia will use para-dichlorobenzene for this insect. There will be between three hundred thousand and four hundred thousand pounds of this material used in this State this year."

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Georgia — O.I.Snapp (September 11). "The curculio damage to peaches in the Cornelia or northeastern Georgia district was greater than in central Georgia this year. The infestation was heavier there than it has been for the past several years and is readily accounted for by the failure of the growers in that section to use the full amount of arsenate of lead in the important last application for the second generation, and also to the prevalent rainy season. This district is not in the peach belt of central Georgia. At Fort Valley adults of the second generation were emerging during the last few days of July and the first week in August. Jarring of orchards during the first week in August gave less than 1 beetle per tree. The jarrings a year ago gave an average of over 5 beetles per tree. This is largely due to effective control measures practised during the past year. Third-generation eggs were taken on the morning of August 17. This is perhaps the first record of a partial third generation in this latitude. On August 22 larvae of this generation were noted in the insectary entering the fruit; on September 11, a full-grown curculio larva of the third generation left the fruit in the insectary. This larva immediately took to the soil and started to prepare for pupation. A number of adults of the third generation will in all probability be bred out before the close of the season."

Conotrachelus anaglypticus Say

Georgia — O.I.Snapp. "This insect whose life history is very similar to that of C. nenuphar has been bred from peaches that fell to the ground during June. In all probability this species frequently attacks peaches in Georgia and all of the damage herefofore has been attributed to the latter species. Frequently the adults of anaglypticus have been taken from the frames while jarring for C. nenuphar."

SHOT-HOLE BORER (Scolytus rugulosus Ratz.)

Pennsylvania S. W. Frost (September 15). "The fruit-tree barkbeetle is abundant in some orchards and has been found on living peach trees. On September 6, adults were issuing in great abundance from the limbs of peach trees."

Georgia O. I. Snapp (September 12). "This insect is doing considerable damage and is numerous in peach orchards, where the trees have become unhealthy from severe San Jose scale infestation. The San Jose scale is on the increase in central Georgia peach orchards, which accounts for a greater abundance of the barkbeetle."

Indiana J. J. Davis (September 15). "The shot-hole borer continues to be the subject of frequent inquiries."

Illinois W. P. Flint (September 13). "Damage by this insect has been quite general and in some cases the trees attacked have apparently been in good condition, but have been somewhat weakened by prolonged drought. Spring applications of nitrate of soda have saved many trees in which the injury was not too great."

Calopteron reticulatum Fab. and C. terminale Say

Nebraska M. H. Swenk. "During the last week in August an unusual report was received from Franklin County to the effect that these lampyrid beetles were destroying peaches by eating into the fruit just as they were beginning to turn."

PLUM

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Massachusetts R. A. Van Meter (September 13). "In the Hill sections of the State, especially, this insect is very serious on apples. It is worse than the codling moth."

Wisconsin S. B. Fracker (September 15). "This insect is unusually abundant in the southern counties this season. It is also extremely difficult to control."

PECAN

FALL WEBWORM (Hyphantria cunea Drury)

Georgia O. I. Snapp (September 12). "The fall webworm is much more abundant than normally in central Georgia. It is attacking pecans, persimmons, wild cherry and sassafras, and several nests have been found on peach with the larvae feeding on peach foliage."

Louisiana T.H.Jones (September 11). "Although this insect has been sent in from Natchitoches, there appears to have been no real outbreak of this pest this year in any portion of this State."

Lachnus sp.

Georgia O.I.Snapp (September 5). "Heavy infestations of lachnus were found on pecan trees in Fort Valley. Spraying with contact insecticides had to be resorted to in several cases to prevent serious injury of the trees."

CITRUS AND SUBTROPICAL FRUITS

CITRUS WHITE FLY (Dialeurodes citri Ashm.)

Louisiana T.H.Jones (September 15). "For about a month the adults have been noticeably abundant at Baton Rouge during the evenings, especially about chinaberry trees and privet. On the evening of September 2, they were noted to be especially abundant in the City of Lafayette."

BANANA

BANANA ROOT-BORER (Cosmopolites sordidus Germ.)

Porto Rico G.N.Wolcott (September 2). "Two new localities from which material infested by the banana root-borer has been sent in by the agricultural agents are Barros and Comerio. The previous known range of this pest was between Corozal, Vega Baja, and Vega Alto (Barrio Mavillo and Maricao) Guaynabo, Rio Piedras, and Trujillo Alto, all of which localities have been ascertained since December 1, 1921, up to which time this pest was not known to be present in Porto Rico."

TRUCK-CROP INSECTS

POTATO AND TOMATO

COLORADO POTATO BEETLE (*Leptinotarsa decemlineata* Say)

Wisconsin — S.B.Fracker (September 15). "This insect is about normally abundant throughout the State this year, not being as numerous as it was last year."

POTATO LEAFHOPPER (*Empoasca mali* LeB.)

Wisconsin — S.B.Fracker (September 15). "Early Ohio potatoes began to die of hopperburn in the southern counties on July 10. Serious damage throughout the State. All unsprayed potatoes are now down except Rural New Yorkers and a few late-planted fields of other varieties."

New York — L.C.Tyler (August 19). "Leafhoppers are abundant in the potato fields in Genesee County and are doing a great deal of damage in unsprayed fields."

TARNISHED PLANT-BUG (*Lygus pratensis* L.)

Utah — I.M.Hawley (September 2). "This insect is causing the tops to turn brown in many potato fields in Morgan County."

POTATO TUBER MOTH (*Phthorimaea operculella* Zell.)

California — R.E.Campbell (September 18). "Car shipments in Los Angeles County started about June 16 and about the 23rd slight infestations of about 5 per cent were observed. During July the infestation increased to from 20 to 25 per cent in many cars. Some fields showed easily 50 per cent of the potatoes affected. The total number of cars inspected was 578. Of these 213 were found to be infested. The estimated loss was between 15 and 20 per cent of the crop. These figures are from the reports of Mr. H.H. Warner, district supervising inspector of the State department of agriculture, and Mr. H.J. Ryan, horticultural commissioner of Los Angeles County."

CABBAGE

CABBAGE WORM (*Pontia rapae* L.)

New York — M.C.Hammond (August 19). "This insect has been somewhat more abundant this year than usual in Orange County and has caused damage to most of the fields in this section."

Maryland — J.A.Hyslop. "Cabbage worms are more numerous than they have been during the past three years in southern Montgomery County."

Indiana — J.J.Davis (September 19). "During the last two weeks several reports of severe injury by the cabbage worm have been received from various parts of the State."

CABBAGE WEBWORM (Hellula undalis Fab.)

Alabama — F.L.Thomas (August 25). "This insect is rapidly increasing in Russell County, where it is much more serious than usual. Of 322 collards examined 82 were dead as the result of infestation and 77 plants dwarfed or badly stunted because of the leaves cut off or the bud destroyed. In Lee County an infestation of young turnips is just beginning."

W.E.Hinds (September 21). "The turnip webworm is doing unusual damage to fall crops of turnips, rape, collards, etc. This species occurs widely distributed throughout Alabama and is a serious pest. The Alabama Experiment Station is undertaking a thorough study of its life history and methods for its control."

HARLEQUIN BUG (Murgantia histrionica Hahn)

Indiana — J.J.Davis (September 19). "The Harlequin bug has been reported the past month as seriously damaging cabbage along the southern border of Indiana."

Louisiana — T.H.Jones (August 14). "Complaints of damage have been received from Jackson Parish, the insect attacking collards."

STRAWBERRY

STRAWBERRY ROOT-WEEVIL (Brachyrhinus ovatus L.)

California — (California Weekly News Letter, August 28). "The strawberry root-weevil was intercepted at Truckee under date of August 28. This is one of the strawberry weevils which occasioned the issuance of Quarantine Regulations Nos. 9 and 10 covering the admission of strawberry plants from the States of Oregon and Washington."

BEANS

MEXICAN BEAN BEETLE (Epilachna corrupta Muls.)

Tennessee — Neale F. Howard (September 25). "During September the Mexican bean beetle has been discovered in seven new Counties in Tennessee, i.e., Dickson, Robertson, Davidson, Williamson, Wilson, Cocke, and Claiborne."

Kentucky — Neale F. Howard (September 25). "The report made from Madison County in the last number of the Survey Bulletin has proved incorrect. Specimens which were sent in by a correspondent in that county were not collected in that county. On September 19 specimens were collected from Simpson County."

Alabama W.E.Hinds (September 21). "The Mexican bean beetle cleaned up the table beans of all kinds in the areas becoming generally infested in the fall of 1921 so that practically no green bean vines have existed since the middle of July. The spread of the species southward appears to have been light and no complaints have been received beyond the lines reached by the beetle a year ago. The influence of the prevailing direction of light breezed, which come from the south, explains, we believe, the slow spread in that direction."

Neale F.Howard (September 16). "The Mexican bean beetle was reported from Prattville, Autauga County, on September 11. This is the farthest south that this beetle has been reported in this State."

CUCUMBER

STEPPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

Georgia O.I.Snapp (August 30). "An unusually heavy infestation of the striped cucumber beetle was found three miles west of Woodbury, Ga."

BELTED CUCUMBER BEETLE (Diabrotica balteata Lec.)

Alabama W.E.Hinds (September 21). "The belted cucumber beetle was found in the State for the first time only a few years ago when it appeared in the southwestern corner. The first specimens were taken at Auburn about two years ago. In the meantime, the species has multiplied and spread very rapidly until it is the most abundant species of Diabrotica through the central part of the State and appears to be displacing the common twelve-spotted cucumber beetle. Injury to beans and many other crops is commonly reported."

Louisiana T.H.Jones (September 15). "During the last few years beetles of this species have become noticeably abundant during the late summer and fall. Complaints of damage to Irish potatoes, beans, etc., were received during early September from West Feliciana and East Baton Rouge Parishes."

MELONS

MELON APHID (Aphis gossypii Glov.)

California R.E.Campbell (September 1). "In some localities in Los Angeles and Riverside Counties early unchecked infestations have spread to entire fields, causing a considerable reduction in the crop of late melons. Watermelons, canteloupes, and early muskmelons were not seriously affected but late muskmelons, casabas, and Persian melons are heavily infested. Other fields have only slight infestations."

SQUASH

SQUASH LADY-BEETLE (*Epilachna borealis* Fab.)

Maryland — F.H.Chittenden (September 8). "The squash lady-beetle has been decidedly more abundant the present year than last, being almost universally injurious to squash, pumpkin, and some other cucurbits in the District of Columbia and near-by Maryland and Virginia. It is still in the fields."

BEETS

BEET WEBWORM (*Loxostege sticticalis* L.)

Nebraska — M.H.Swenk (September 1). "During the third week in August the stubble fields in Deuel County were overrun with the sugar-beet webworm. They were so numerous that the farmers were fearful of reseeding the infested fields to wheat this fall until assured that these pests would not injure the new crop."

SOUTHERN FIELD-CROP INSECTS

COTTON

BOLL WEEVIL (*Anthonomus grandis* Boh.)

NOTE: The percentages given in previous boll-weevil reports are based on actual counts of punctured squares made in several fields at each point recorded. This does not mean the per cent of the crop lost or damaged but merely the per cent of squares punctured.

North Carolina — B.R.Coad (September 15). "In the southern counties near the South Carolina State line damage is considerable, extending from Union County to Scotland County and northward to Moore County. Damage is slight in the more northern counties."

South Carolina — B.R.Coad (September 15). "Boll-weevil conditions were reported from 7 counties, all reporting heavy infestations. In York County two-thirds of the bolls were damaged at one place."

Georgia — B.R.Coad (September 15). "Reports in Georgia were received from 21 counties, all reporting heavy infestations. Damage to the bolls were reported from Floyd County."

Tennessee — B.R.Coad (September 15). "Reports were received from 16 counties; of these 8 counties were heavily infested, all being in the southwestern corner of the State with the exception of McMinn County in the southeastern corner."

Arkansas — B.R.Coad (September 15). "Reports on the boll-weevil situation were received from 30 counties in this State. Of these 25 counties generally distributed throughout the southeastern half of the State was heavily infested."

Oklahoma — B.R.Coad (September 15). "Seven counties from Oklahoma reported on the boll-weevil situation. The 4 counties lying east of Okfuskee and Atoka Counties were heavily infested, those to the west but slightly infested."

Alabama — B.R.Coad (September 15). "Twenty-six counties reported on the boll-weevil situation. Of these 22 counties generally distributed over this State were heavily infested."

W.E.Hinds (September 21). "Boll-weevil injury has been much less during the present season than the May prospect indicated, largely because of the control exerted through the unusually dry hot weather continuing quite generally through the State in June, July, and August. During June the rainfall was less than one-third normal and this checked the weevil to the extent that the cotton has fruited unusually, in the southern two-thirds of the State, particularly. Rainfall for the 3 months has been only one-half the normal."

Louisiana — B.R.Coad (September 15). "Reports were received from 11 counties in this State, 9 in the northern half of the State reporting heavy infestations."

Mississippi — B.R.Coad (September 15). "Fifty-six counties reported on the boll-weevil situation. Of these 39 counties reported heavy infestations. An area of light infestation occurred in the eastern part of the State over part of Bolivar, Washington, Sunflower, and Leflore Counties, and a similar lighly infested area occurred in the northern part of the State from DeSoto to Tishomingo County southward to Chickasaw and Calhoun Counties."

Missouri — B.R.Coad (September 15). ""Boll-weevil specimens were received on September 6, from Kennett, Mo., and also reported as present at Hayti and Steele."

Texas — B.R.Coad (September 15). "Boll-weevil reports were received from 11 counties in the eastern third of the State. Of these 10 reported heavy infestations."

BOLLWORM (Heliothis obsoleta Fab.)

Georgia — O.I.Snapp (August 26). "Several cotton planters report this insect as causing serious damage to cotton in Middle Georgia. Some of this damage had been noted in fields that had been dusted four times for the cotton boll-weevil."

Arkansas — B.R.Coad (September 15). "The bollworm was reported from Nashville in Howard County this year."

Louisiana — T.H.Jones (September 15). "Specimens of larvae were sent in from various parts of the State during the latter part of August with reports that they were seriously injuring cotton bolls."

COTTON WORM (Alabama argillacea Huebn.)

New Hampshire — H.T.Fernald (September 21). " A perfect specimen of the cotton worm moth was taken September 16 at Bethlehem."

Virginia — W.J.Schoene (Telegram September 22). "Defoliation by cotton worm reported from 4 counties, Norfolk, Nansemond, Dinwiddie, and Brunswick. The county agents of Norfolk and Brunswick reported that the defoliation was so serious that the owners of cotton fields were dusting under their directions."

Illinois — W.P.Flint (September 18). "First adults of this species were taken on the night of September 12 at Urbana."

Tennessee — W.R.Coad (September 15). "Heavy infestations of cotton worm larvae were reported from Tipton, Fayette, Shelby, and Gibson Counties. Slight infestations were reported from Carroll, Hardin, and Hardeman Counties."

Arkansas — B.R.Coad (September 15). "Damage by cotton leafworm reported from Desha, Columbia, Grant, Mississippi, and Miller Counties. Slight infestation in Lonoke and Lincoln Counties."

Alabama — W.E.Hinds (September 21). "The cotton leaf caterpillar has been so completely checked in its August development by dry hot weather that no serious stripping has occurred or is now likely to occur in Alabama this season. Preparations were made for poisoning this pest, but little application of poison has been necessary."

Louisiana — T.H.Jones (September 15). "Since my last report August 15, the cotton caterpillar has continued to feed on cotton generally over the State."

B.R.Coad (September 16). "Heavy infestations were reported from East Carroll, Webster, Bienville, Union, Tensas, and Caddo Parishes."

Mississippi — B.R.Coad (September 15). "Heavy infestations of the cotton leafworm were reported from 12 counties."

Texas — M.C.Tanquary (August 22). "The cotton leafworm has been serious over the eastern third of the State, reports of heavy feeding having been received from 14 counties, all lying east of Coryell County, and extending from Lamar County on the north to Dewitt County on the south."

FOREST AND SHADE-TREE INSECTS

GENERAL FEEDERS

GIPSY MOTH (*Porthetria dispar* L.)

Massachusetts R. A. Van Meter (September 13). "Gipsy moth larvae have been less abundant this season, in Middlesex County and the district south of Boston than for many years."

WHITE GRUBS (*Phyllophaga* spp.)

Maine H. B. Pierson (September 13). "Experiments are being tried using crude white arsenic in an endeavor to control these insects which have caused serious damage to seed beds in Maine, New Hampshire, and Vermont."

FALL WEBWORM (*Hyphantria cunea* Drury)

Maine H. B. Pierson (September 13). "The webworm is present in large numbers on elms in Augusta. At the present time they are about half grown."

Massachusetts H. T. Fernald (September 21). "The fall webworm has been more noticeable than usual during the past month, but is not present in what might be termed destructive abundance."

Connecticut B. A. Porter (August 26). "This insect seems to be more abundant than usual in the region north of Wallingford."

W. E. Britton and assistants. "This insect seems to be very abundant in Hartford, Windham, and Tolland Counties, and reported as abundant in New London and Fairfield Counties."

Maryland E. N. Cory (September 15). "This insect is much more abundant than usual at Whiteford and generally over Hartford and Carroll Counties, where practically all of the walnut trees have been stripped. They have all now pupated."

Georgia O. I. Snapp (August 30). "This insect is unusually abundant in west-central Georgia on pecans, persimmons, etc. A number of the trees in the woodlands of Upson and nearby counties were noted to be defoliated on this date."

Alabama W. E. Hinds (September 2). "Fall webworms have been exceptionally abundant in the northern half of the State, especially on persimmon and other wild food plants, but are attacking pecans particularly among the more valuable economic host plants."

FOREST TENT CATERPILLAR (Malacosoma disstria Hubn.)

Maine H. B. Pierson (September 13). "Both cocoons and eggs of the tent caterpillar were heavily parasitized. In some sections of the woods in northern Maine it is difficult to find cocoons that have not been destroyed by a parasite. This means that comparatively small numbers of egg masses were laid, considering the serious outbreak that occurred in this region earlier in the season."

Massachusetts R. A. Van Meter (September 13). "Larvae were plentiful in eastern Massachusetts again this year and egg masses are very common in apple orchards."

BEECH

WOOLLY BEECH APHID (Prociphilus imbricator Fitch)

Connecticut E. H. Hollister (September). "This insect was first found in Hartford County by the gray color of the ground underneath the trees which was caused by some discharge from the aphid. Only some of the lower branches seem to have insects on them. This outbreak is much worse than usual in this region."

Maryland J. A. Hyslop (September 5). "This aphid is much more abundant than it has been during the past three or four years in southeastern Montgomery County. The insects completely cover many of the lower branches, giving the branch the appearance of being covered with a cottony quivering vesture. Sometimes branches up to 1 inch thick are completely covered for several feet. These aphids are so numerous that under some of the trees the ground is discolored by a blue sooty mold growing in the honeydew, and on the trunks of the trees large masses of a yellow fungus having the texture of sphagnum moss are growing in the same honeydew."

BIRCH

BIRCH LEAF-SKELETONIZER (Bucculatrix canadensisella Chamb.)

Massachusetts H. T. Fernald (September 21). "The white birch has been attacked by the birch Bucculatrix practically over the entire State. From Boston west to beyond Worcester, even tiny birches not more than a foot high have been completely skeletonized, and the birch trees look as though fire had run through them. This condition is also present throughout the Connecticut Valley, though here and there areas of only partial skeletonizing appear. I have not been able to ascertain whether or not this insect is present in the Berkshires."

New Hampshire H. T. Fernald (September 21). "On a trip last week up through the White Mountains, there were evidences of its work up the Connecticut River to Wells Junction and through the White Mountains here and there, but it seemed to be less in evidence around Lake Winnepesaukee. Around Concord it was also noticeable, and across the southern end of the State to Keene, on the west. On the whole, however, I should hardly consider the New Hampshire defoliation as severe as that in eastern Massachusetts, where it is the worst I have ever seen it."

Connecticut — W. E. Britton and assistants. "This insect is entirely skeletonizing the birch trees in Tolland and New Haven, and generally throughout the eastern part of the State. Nearly all gray birches are now brown. Other trees are attacked but less seriously injured."

New York — E. P. Felt (September 23). "This insect has been exceptionally abundant on birches, especially in the northern portion of the State and particularly in the Adirondacks. Considerable areas in this latter section and adjacent thereto have been so thoroughly skeletonized that practically all the leaves dried and dropped. The injury was not so severe in the vicinity of Albany as in 1921. Mr. R. E. Horsey found the insect somewhat abundant or destructive to more than 10 species growing in Highland Park, Rochester."

Michigan — R. H. Pettit (August 30). "I received today specimens of the birch skeletonizer reported from Cheneaux Highland as destroying the foliage of birch throughout that part of northern Michigan."

Wisconsin — C. L. Fluke. "Every tree of whatever variety with the exception of evergreens is infested with the worm and it begins to look as though the trees would be destroyed. The territory infested covers thousands of acres, several hundreds of which belong to the City of Two Rivers. Cocoons are now being formed, so the damage is over for this season."

BRONZE BIRCH BORER (Agrilus anxius Gory)

New York — R. E. Horsey (September 23). "This insect continues to be destructive in different parts of the State, and it is not unusual to see weeping birches in a dead or dying condition even in the residential areas."

Iowa — F. A. Fenton (September 13). "The bronze birch borer has been reported from the following counties: Dodge, Cedar Rapids, and Eagle Grove."

SAWFLY (Nematus sp.)

Maine — H. B. Pierson (September 13). "During the latter part of August a yellow sawfly was very numerous on white birch, stripping large areas. Poplar and other hardwoods were apparently immune."

WHITE-MARKED TUSSOCK MOTH (Hemerocampa leucostigma S. & A.)

Maine — H. B. Pierson (September 13). "This insect stripped several areas of birch in northern Maine during August."

ELM

ELM LEAF-BEETLE (Galerucella luteola Müll.)

Maine — H. B. Pierson (September 13). "The elm leaf-beetle has done considerable damage this summer in some of the cities in the central part of the State."

Connecticut F. A. Bartlett (September 19). "This insect is more abundant than it has been for the past five years in Stamford and Greenwich."

New York R. E. Horsey (September 13). "The elm leaf-beetle is reported as spreading somewhat in Rochester."

ELM BORER (Saperda tridentata Oliv.)

Illinois W. P. Flint (September 18). "Many reports of injury by this insect have been received from central and southern Illinois."

LARCH

LARCH CASE-BEARER (Coleophora laricella Huebn.)

Maine H. B. Pierson (September 13). "This insect, which earlier in the season assumed alarming proportions in the region between Augusta and the coast, has gained a strong foothold in the area around Moosehead Lake."

LARCH SAWFLY (Nematus erichsonii Hartig)

Maine H. B. Pierson (September 13). "The larch sawfly is again becoming abundant in certain localities but heavy rains have done much to keep this insect in check. Thirty-five years ago this insect killed nearly all of the larch of the State and it has been slow in gaining a foothold again. Interesting stories are told of how the caribou left the State after the destruction of the larch by the sawflies, the caribou living almost entirely in stands of larch."

MAPLE

MAPLE BORER (Glycobius speciosus Say)

Maine H. B. Pierson (September 13). "This insect has been unusually abundant on shade trees this year. Last year comparatively few inquiries were received in regard to this insect."

COTTONY MAPLE SCALE (Pulvinaria vitis L.)

Indiana H. F. Dietz (August 28). "The ladybird beetle Hyperaspis signata Oliv. is doing some valuable work in controlling the cottony maple scale according to observations made at Muncie."

OAK

ORANGE-STRIPED OAKWORM (Anisota senatoria A. & S.)

New Jersey Henry Fox (August 31). "Caterpillars of this moth are swarming on nearly every oak tree in New Lisbon and Browns Mills. Many of the trees are nearly completely defoliated. It is especially destructive on Quercus ilicifolia."

POST-OAK LOCUST (Dendrotettix quercus Pack.)

New Jersey — Henry Fox (August 31). "A local outbreak of this insect was observed 3 miles south of Browns Mills, the foliage especially of sapling oaks extensively eaten. The grasshoppers are very sluggish and easily captured. This outbreak was first observed by a Japanese beetle scout about three weeks ago."

WALNUT CATERPILLAR (Datana integerrima G. & R.)

Georgia — O. I. Snapp (September 13). "These insects had completely defoliated several young oaks near Fort Valley which were planted for ornamental purposes. The infestation was so severe in this grove that arsenical spraying had to be enforced in order to prevent further destruction."

PINE

MOUNTAIN PINE BEETLE (Dendroctonus monticolae Hopk.)

Montana — J. C. Evenden (September 6). "This epidemic crossed the Continental Divide from the Blackfoot Valley and now threatens to destroy the valuable stands of lodgepole pine east of the mountains in Helena National Forest."

WESTERN PINE BEETLE (Dendroctenus brevicomis Lec.)

Idaho — J. C. Evenden (September 6.). "In the Payette River Valley there has been a very serious epidemic of this insect. At the present time the infestation is centered in a small area which will be placed under control during the coming winter in order to prevent the spread of the beetles into adjacent stands."

PALES WEEVIL (Hylobius pales Herbst)

Maine — H. B. Pierson (September 13). "The pales weevil is present throughout southern Maine."

WHITE PINE WEEVIL (Pissodes strobi Peck)

Maine — H. B. Pierson (September 13). "The white pine weevil was even found in isolated clumps of pine in northern Maine. It is not present in this region in any quantity owing to the small number of white pine present."

A SAWFLY (Nadiprion sp.)

Montana — J. C. Evenden (September 6). "The forest supervisor in Custer National Forest reports considerable damage being done to yellow pine by sawfly larvae."

POPLAR

(Phyllonorycter tremuloidella Braun)

Idaho — J. C. Evenden (September 6). "Practically every poplar shade tree in the City of Coeur d'Alene, Idaho, is heavily attacked by these insects."

POPLAR SAWFLY (Trichocampus viminalis Fallen)

New York — E. P. Felt (September 23). "The poplar sawfly has been somewhat abundant and injurious to Carolina poplars in Fulton and Saratoga Counties."

FIR

SPRUCE BUDWORM (Tortrix fumiferana Clem.)

Maine — H. B. Pierson (September 13). "This insect has been found in limited numbers throughout the northern two-thirds of the State. At the present time fully three-fourths of the mature fir in the State is dead owing to the ravages of this insect."

BLACK GUM

BLACK GUM CASE-BEARER (Antispila nyssaefoliella Clem.)

Connecticut — W. E. Britton (September 20). "This insect, which has not been observed for several years, has completely browned the foliage of several trees at Orange in this State."

Pennsylvania — S. W. Frost (September 15). "The case-bearer was found extensively abundant on black gum in the vicinity of Newton, Bucks County. The trees show nearly 100 per cent of the leaves infested, and whole trees were brown from the attack of this insect."

WILLOW

Plagiodera versicolora Laich.

Connecticut — F. A. Bartlett (September 19). "This insect is a very serious pest of willows at Stamford and is spreading rapidly. There is scarcely a tree that is not at least two-thirds defoliated regardless of variety, excepting the pussy willow."

GREENHOUSE AND ORNAMENTAL PLANT INSECTS

ASTERS

Correction: (Volume 2, No. 6, page 226). The caption "Pictipes sp." is a typographical error and should read "Eisonyx picipes Pierce".

CHRYSANTHEMUM

CHRYSANTHEMUM GALL MIDGE (Diarthronomyia hypogaea Loew)

Indiana — H. F. Dietz (August 28). "Light infestations by the chrysanthemum gall midge are occasionally found in the State but most florists are having little difficulty in exterminating this insect by using one fluid ounce of 40 per cent nicotine sulphate with 1 ounce of fish-oil or other cheap soap in 4 gallons of water, applying the spray every three days."

MARGUERITE LEAF-MINER (Phytomyza chrysanthemi Kowarz)

Indiana — H. F. Dietz (August 26). "The chrysanthemum leaf-miner seems to be coming back, especially where asters are grown under glass. They attack asters first and then go to chrysanthemums."

THRIPS (species undetermined)

Indiana — H. F. Dietz (August 26). "An undetermined species of thrips is doing considerable damage to asters and chrysanthemums, especially in the northeastern part of the State."

ROSE

SADDLE-BACK CATERPILLAR (Sibine stimulea Clem.)

Delaware — C. O. Houghton (September 1). "This insect is doing considerable damage to roses at Newark."

ROSE MIDGE (Dasyneura rhodophaga Coq.)

Indiana — H. F. Dietz (August 28). "The rose midge is quite bad again on the varieties Ophelia, Premier, and Butterfly in the northeastern part of the State. Nightly fumigation with tobacco stems or prepared nicotine extract gives good control but I find a number of cases where even a fumigation for four weeks has not exterminated the pest."

LONG ROSE GALL (Rhodites dichlocerus Harr.)

Michigan — E. P. Felt (September 23). "There was an unusually severe, though local, infestation of Rosa rugosa bushes in Michigan, judging from the report and specimens submitted. Some of the rose bushes had every growing tip badly infested and, consequently, satisfactory growth another season could be obtained only through the development of adventitious buds."

INSECTS INFESTING HOUSES AND PREMISES

PTINID BEETLES (*Hadrobregmus carinatus* Say and *Anobium* sp.)

New York — C. R. Crosby (August 1). "Both of these beetles were reported as badly infesting flooring at Waterport, N. Y. The species were determined by Mr. W. S. Fisher."

A POWDER-POST BEETLE (*Lyctus* sp.)

Maine — H. B. Pierson (September 13). "An interesting report was received in regard to a barn that had been built 60 years and that was beginning to crumble, due to the presence of these borers in the large timbers."

ARGENTINE ANT (*Iridomyrmex humilis* Mayr)

Alabama — W. E. Hinds (September 21). "The Argentine ant is attracting increased attention and campaigns for its suppression are being arranged in two of the largest cities of the State. Through the control in such centers of population its spread to the strictly rural districts may be retarded most easily and effectively."

TERMITES (*Reticulitermes tibialis* Banks)

Nebraska — M. H. Swenk (September 1). "Late in August a lumber company in Harlan County reported that termites were destroying a valuable lumber yard of frame construction on concrete foundation."

BLACK FLIES (*Simulium* spp.)

Maine — H. B. Pierson (September 13). "Black flies are more numerous this year than they have been for some time. Swarms of larvae were present on the rocks in streams."

CRICKETS (species undetermined)

Indiana — J. J. Davis (September 19). "On September 1 a correspondent at Elkhart reported that for the past month his house has been almost overrun with crickets, which not only make a great deal of noise but are eating good-sized holes in the rugs, etc."

INSECTS ATTACKING DOMESTIC ANIMALS

SHEEP SCAB (*Psoroptes communis* Furst.)

California (California Weekly News Letter, Volume 3, No. 34). "During the eighteen months ending June, 1922, this disease necessitated the dipping of 2,102,000 sheep. Making a conservative estimate that dipping costs five cents per head, this item alone amounted to $105,000. Since a great economic loss to sheep men can be prevented annually by eradicating this disease, most stringent methods should be put into effect."